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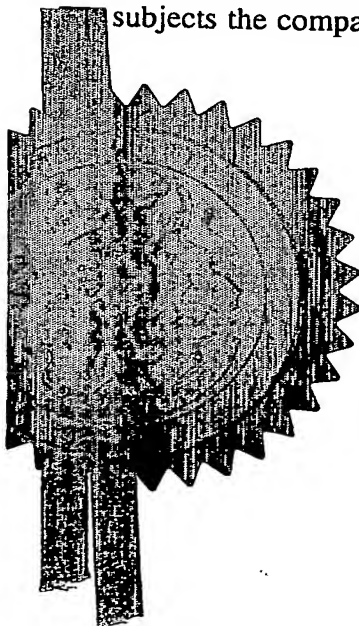
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Signed

Stephen Hordley

Dated

21 August 2003

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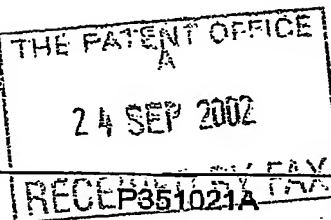
Patents Act 1977
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The
Patent
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24SEP02 E750615-1 002835
P01/7700 0100-0222135.6

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)



The Patent Office

Cardiff Road
Newport
South Wales
NP9 1RH

1. Your reference

2. Patent application number
(The Patent Office will fill in this part)

TO BE ADVISED

24 SEP 2002

0222135.6

3. Full name, address and postcode of the or of each applicant (underline all surnames)

04449633002
Patents ADP number (if you know it)

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PO BOX 7
OLDFIELD LANE
WISBECH
CAMBRIDGESHIRE
PE13 2SZ

If the applicant is a corporate body, give the country/state of its incorporation

UNITED KINGDOM

4. Title of the invention

METHOD AND APPARATUS FOR PRODUCT PACKAGING

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

URQUHART-DYKES & LORD
NEW PRIESTGATE HOUSE
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UNITED KINGDOM

Patents ADP number (if you know it)

0001644009

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))

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Continuation sheets of this form

Description

5

Claim(s)

Abstract

Drawing(s)

1

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

Request for substantive examination (Patents Form 10/77)

Any other documents
(please specify)

11.

I/We request the grant of a patent on the basis of this application.

Urquhart-Dykes & Lord

Signature

Date

URQUHART-DYKES & LORD

24 September 2002

12. Name and daytime telephone number of person to contact in the United Kingdom

CHRISTINE LUND-BECK - 01733 340011

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METHOD AND APPARATUS FOR PRODUCT PACKAGING

This invention relates to a method and apparatus for product packaging. The invention is particularly although not exclusively applicable to packaging for products of the kind which are currently sold with a sleeve-type product identification band or wrapping member which serves to encircle, partially encircle or wrap around a product such as a food product or so-called "ready meal" which may be contained in a dish-format container with, for example, sealant film covering the container.

Such food products or ready meals are cooked, or more often, re-heated in a microwave oven for speed and convenience. The cooking process generates a large amount of heat in the form of steam which, if not allowed to escape, can cause the packaging to rupture, due to the increased pressure created therein by the steam. Such rupturing can cause the contents to spill into the oven and can also compromise the cooking conditions required to safely prepare the food product prior to eating. This problem is often addressed by the user being instructed to randomly pierce the sealant film to allow the steam created to escape, thereby reducing the build up of pressure within the pack.

However, the production of steam within such a wrapped food product can be used to produce steam cooked food products or ready meals. In this case, the random piercing of the sealant film would be inappropriate as the correct cooking conditions may not be maintained, however a sealed container would be liable to rupture with the attendant difficulties as discussed above.

Previous proposals to address this problem have included the provision of a rather complex structure to act as a valve

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which is inserted into the sealant film. The upper surface of the valve structure is itself covered with a sealant film to prevent contamination. The disadvantages of this arrangement is that it is not unknown for the valve to fail
5 which results in the sealant film rupturing. A further disadvantage of this system is that it is a rather complex mechanism and therefore adds to the cost of the packaging.

It is an object of the present invention to provide
10 improvements in relation to one or more matters discussed herein or generally.

According to the invention there is provided apparatus for enabling the alleviation of excess pressure created within
15 a food package as a result of steam generation during cooking and more particularly microwave cooking.

The apparatus for enabling said alleviation comprises a product identification band, wrapping member or label which
20 serves to encircle, partially encircle or wraps around a dish format container. The product identification band is provided with an adhesive coating on one side to enable it to be securely located on the sealant film. The product identification band or label is formed with an embossed
25 region which, for example, may be in the shape of a triangle but is not, of course, limited to this particular shape. The embossed region is bordered on two sides by a cut which penetrates the material forming the product identification band or label. The cut is formed on two sides of the
30 triangular embossed region which acts to form a flap. This enables this region of the label to be lifted, and the third side which is not bordered by a cut serves to impart a "hinge-like" action which assists the lifting of the flap. In addition, as this region is embossed it is slightly
35 raised from the surface of the main body of the label, this

also serves to assist the lifting action of the flap.

5 In a further embodiment of the invention, the embossed region which is bordered on two sides by a cut penetrating the material forming the product identification band or label, said cut region may be provided with one or more ties which disrupt the line of the cut thereby providing regions which serve to connect or "tie" the flap to the body of the product identification band. These ties act to restrict
10 movement of the flap.

15 In a still further embodiment of the invention, the region of the label forming the flap which is not bordered by a cut and which serves to impart a "hinge-like" action which assists the lifting of the flap may itself be provided with cut regions or perforations which penetrates the material forming the product identification band or label.

20 When the food product or so-called "ready meal" contained in a dish-format container, is packaged, a sealant film is placed over the container and a small aperture or "pin prick" is made in the sealant film. The product identification band, wrapping member or label is then applied to the packaged product such that the embossed area
25 is located over the aperture.

30 When the packaged food product is heated in a microwave oven, steam is generated within the package which acts to heat and/or cook the food contained therein. When the amount of steam created within the package reaches a level at which it begins to impinge on the integrity of the sealant film, the pressure will act on the point of least resistance and this will be the aperture or "pin prick" made in the sealant film. The steam will begin to move through this aperture as
35 the pressure inside increases. As the aperture is covered by

the embossed region of the product identification band, wrapping member or label, the steam moving through the aperture will act on the underside of the product identification band, wrapping member or label in this particular region, and the pressure of the escaping steam will cause this region of the label to lift and act as a valve allowing the steam to vent.

In those embodiments which are formed with ties, the ties serve to restrict the lifting movement of the flap as a result of pressure caused escaping steam and in those embodiments of the invention in which the hinged region is formed with cuts or perforations, these serve as further means by which steam may be vented. These embodiments provide means by which different amounts of steam and the attendant pressure created thereby to be retained within different packs.

In a further embodiment of the invention, a range of adhesives of varying strengths may be applied to the product identification band, wrapping member or label for different food products. This will enable different amounts of steam and the attendant pressure created thereby to be retained within different packs before the pressure of steam will overcome the adhesive forces of the label in this area and the flap or valve is activated or lifted.

The invention provides a simple, hygienic and cost effective way of providing a safety valve or vent in prepackaged food products to facilitate the safe removal of excess steam created during the cooking /heating process.

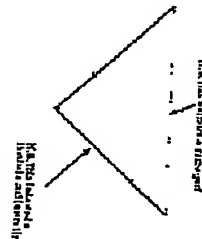
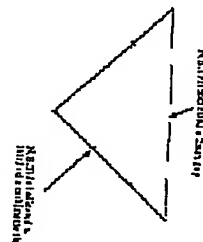
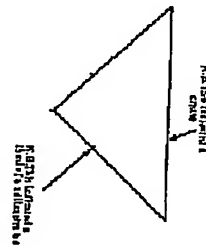
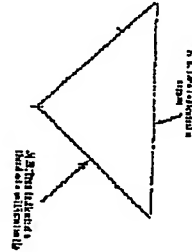
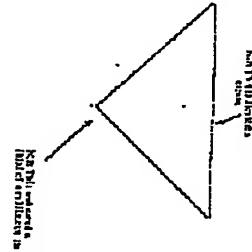
According to the invention there is also provided a method of facilitating the safe removal of steam wherein during the packaging of a food product or so-called "ready meal"

5

contained in a dish-format container, a sealant film is placed over the container. A small aperture or "pin prick" is then made in the sealant film. A product identification band, wrapping member or label having an embossed and cut region formed therein is then applied to the product such that the embossed area is located over the aperture.

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